

SEQUENCE LISTING

<110> Yamaguchi, Shotaro

<120> NOVEL PROTEIN-DEAMIDATING ENZYME, MICROORGANISM PRODUCING THE SAME,
GENE ENCODING THE SAME, PRODUCTION PROCESS THEREFOR, AND USE THEREOF

<130> Q80844

<140> Unassigned, Divisional of 09/727,769

<141> 2004-04-02

<150> US/09/727,769

<151> 2000-12-04

<150> US/09/324,910

<151> 1999-06-03

<150> JP Hei. 11-345044

<151> 1999-12-03

<150> JP Hei. 10-173940

<151> 1998-06-04

<160> 11

<170> PatentIn version 3.1

<210> 1

<211> 20

<212> PRT

<213> Cryseobacterium sp. No. 9670

<400> 1

Leu	Ala	Ser	Val	Ile	Pro	Asp	Val	Ala	Thr	Leu	Asn	Ser	Leu	Phe	Asn
1				5					10					15	

Gln	Ile	Lys	Asn
			20

<210> 2

<211> 20

<212> PRT

<213> Cryseobacterium sp. No. 9670

<400> 2

Ser Pro Ser Asn Ser Tyr Leu Tyr Asp Asn Asn Leu Ile Asn Thr Asn
1 5 10 15

Cys Val Leu Thr
20

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<212> DNA
<213> Artificial Sequence

<220>
<223> sense primer

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<221> misc_feature

<222> (3)..(3)
<223> n = inosine

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<222> (6)..(6)
<223> n = inosine

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<222> (9)..(9)
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<222> (15)..(15)
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gcnwsngtna thccngaygt

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<210> 4
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<213> Artificial Sequence

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 <223> n = a, c, g or t

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<210> 5
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 ttggcgagtg taattcctga tgtagctaca ttaaattctt tattcaatca aataaagaat 60
 cagtcttgcg gtacctctac ggcgctcctca ccatgcatca cattcagata tcctgtagac 120
 ggatggttatg caagagccca taagatgaga caaatcttaa tgaacaacgg ctatgactgt 180
 gaaaaacaat ttgtatacgg aaacctaaag gcatcaacag gaacttgctg tgtggcggtgg 240
 agctaccacg ttgcaatatt ggtaagctat aaaaatgctt ccggagtaac ggaaaaaaga 300
 attattgatc cttcactatt ttcaagcggg cctgtaacag atacagcatg gagaaacgct 360
 tgcgttaaca cctcttgcgg atctgcatcc gtttcctctt atgctaatac tgcaggaaat 420
 gtttattaca gaagtcctag taattcttac ctgtatgaca acaatctgat caataccaac 480
 tgtgtactga ctaaattttc actgctttcc ggatgttctc cttcacctgc accggatgta 540
 tccagctgtg gattt 555

<210> 6
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 <212> PRT
 <213> Cryseobacterium sp. No. 9670

<400> 6

Leu Ala Ser Val Ile Pro Asp Val Ala Thr Leu Asn Ser Leu Phe Asn
1 5 10 15

Gln Ile Lys Asn Gln Ser Cys Gly Thr Ser Thr Ala Ser Ser Pro Cys
20 25 30

Ile Thr Phe Arg Tyr Pro Val Asp Gly Cys Tyr Ala Arg Ala His Lys
35 40 45

Met Arg Gln Ile Leu Met Asn Asn Gly Tyr Asp Cys Glu Lys Gln Phe
50 55 60

Val Tyr Gly Asn Leu Lys Ala Ser Thr Gly Thr Cys Cys Val Ala Trp
65 70 75 80

Ser Tyr His Val Ala Ile Leu Val Ser Tyr Lys Asn Ala Ser Gly Val
85 90 95

Thr Glu Lys Arg Ile Ile Asp Pro Ser Leu Phe Ser Ser Gly Pro Val
100 105 110

Thr Asp Thr Ala Trp Arg Asn Ala Cys Val Asn Thr Ser Cys Gly Ser
115 120 125

Ala Ser Val Ser Ser Tyr Ala Asn Thr Ala Gly Asn Val Tyr Tyr Arg
130 135 140

Ser Pro Ser Asn Ser Tyr Leu Tyr Asp Asn Asn Leu Ile Asn Thr Asn
145 150 155 160

Cys Val Leu Thr Lys Phe Ser Leu Leu Ser Gly Cys Ser Pro Ser Pro
165 170 175

Ala Pro Asp Val Ser Ser Cys Gly Phe
180 185

<210> 7

<211> 1080

<212> DNA

<213> Cryseobacterium sp. No. 9670

<220>

<221> CDS

<222> (61)..(1020)

<220>
 <221> mat_peptide
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atg aaa aat ctt ttt tta tca atg atg gcc ttt gtg acc gtc tta	105
Met Lys Asn Leu Phe Leu Ser Met Met Ala Phe Val Thr Val Leu	
-135 -130 -125	
act ttt aat tcc tgt gcc gat tcc aac ggg aat cag gaa atc aac	150
Thr Phe Asn Ser Cys Ala Asp Ser Asn Gly Asn Gln Glu Ile Asn	
-120 -115 -110	
gga aag gaa aaa cta agt gta aat gat tct aag ctg aaa gat ttc gga	198
Gly Lys Glu Lys Leu Ser Val Asn Asp Ser Lys Leu Lys Asp Phe Gly	
-105 -100 -95 -90	
aag act gta ccg gta ggg ata gac gaa gaa aac gga atg ata aag gtg	246
Lys Thr Val Pro Val Gly Ile Asp Glu Glu Asn Gly Met Ile Lys Val	
-85 -80 -75	
tca ttt atg tta act gcg caa ttc tat gaa att aag ccg acc aaa gaa	294
Ser Phe Met Leu Thr Ala Gln Phe Tyr Glu Ile Lys Pro Thr Lys Glu	
-70 -65 -60	
aat gag cag tat atc gga atg ctt aga cag gct gtt aag aat gaa tct	342
Asn Glu Gln Tyr Ile Gly Met Leu Arg Gln Ala Val Lys Asn Glu Ser	
-55 -50 -45	
cct gta cac att ttc tta aag cct aat agc aat gaa ata gga aaa gtg	390
Pro Val His Ile Phe Leu Lys Pro Asn Ser Asn Glu Ile Gly Lys Val	
-40 -35 -30	
gag tct gca agt ccg gaa gac gta aga tat ttt aaa acg atc ctg aca	438
Glu Ser Ala Ser Pro Glu Asp Val Arg Tyr Phe Lys Thr Ile Leu Thr	
-25 -20 -15 -10	
aaa gaa gta aaa ggg caa acc aat aaa ttg gcg agt gta att cct gat	486
Lys Glu Val Lys Gly Gln Thr Asn Lys Leu Ala Ser Val Ile Pro Asp	
-5 -1 1 5	
gta gct aca tta aat tct tta ttc aat caa ata aag aat cag tct tgc	534
Val Ala Thr Leu Asn Ser Leu Phe Asn Gln Ile Lys Asn Gln Ser Cys	
10 15 20	
ggg acc tct acg gcg tcc tca cca tgc atc aca ttc aga tat cct gta	582
Gly Thr Ser Thr Ala Ser Ser Pro Cys Ile Thr Phe Arg Tyr Pro Val	
25 30 35	

gac gga tgt tat gca aga gcc cat aag atg aga caa atc tta atg aac	630
Asp Gly Cys Tyr Ala Arg Ala His Lys Met Arg Gln Ile Leu Met Asn	
40 45 50 55	
aac ggc tat gac tgt gaa aaa caa ttt gta tac gga aac cta aag gca	678
Asn Gly Tyr Asp Cys Glu Lys Gln Phe Val Tyr Gly Asn Leu Lys Ala	
60 65 70	
tca aca gga act tgc tgt gtg gcg tgg agc tac cac gtt gca ata ttg	726
Ser Thr Gly Thr Cys Cys Val Ala Trp Ser Tyr His Val Ala Ile Leu	
75 80 85	
gta agc tat aaa aat gct tcc gga gta acg gaa aaa aga att att gat	774
Val Ser Tyr Lys Asn Ala Ser Gly Val Thr Glu Lys Arg Ile Ile Asp	
90 95 100	
cct tca cta ttt tca agc ggt cct gta aca gat aca gca tgg aga aac	822
Pro Ser Leu Phe Ser Ser Gly Pro Val Thr Asp Thr Ala Trp Arg Asn	
105 110 115	
gct tgc gtt aac acc tct tgc gga tct gca tcc gtt tcc tct tat gct	870
Ala Cys Val Asn Thr Ser Cys Gly Ser Ala Ser Val Ser Ser Tyr Ala	
120 125 130 135	
aat act gca gga aat gtt tat tac aga agt cct agt aat tct tac ctg	918
Asn Thr Ala Gly Asn Val Tyr Tyr Arg Ser Pro Ser Asn Ser Tyr Leu	
140 145 150	
tat gac aac aat ctg atc aat acc aac tgt gta ctg act aaa ttt tca	966
Tyr Asp Asn Asn Leu Ile Asn Thr Asn Cys Val Leu Thr Lys Phe Ser	
155 160 165	
ctg ctt tcc gga tgt tct cct tca cct gca ccg gat gta tcc agc tgt	1014
Leu Leu Ser Gly Cys Ser Pro Ser Pro Ala Pro Asp Val Ser Ser Cys	
170 175 180	
gga ttt taattaattg ataattttac agcacctgct catttacaga atcagcaggt	1070
Gly Phe	
185	
gctggttatat	1080

<210> 8
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 <213> Cryseobacterium sp. No. 9670

<400> 8

Met Lys Asn Leu Phe Leu Ser Met Met Ala Phe Val Thr Val Leu
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Thr Phe Asn Ser Cys Ala Asp Ser Asn Gly Asn Gln Glu Ile Asn
-120 -115 -110

Gly Lys Glu Lys Leu Ser Val Asn Asp Ser Lys Leu Lys Asp Phe Gly
-105 -100 -95 -90

Lys Thr Val Pro Val Gly Ile Asp Glu Glu Asn Gly Met Ile Lys Val
-85 -80 -75

Ser Phe Met Leu Thr Ala Gln Phe Tyr Glu Ile Lys Pro Thr Lys Glu
-70 -65 -60

Asn Glu Gln Tyr Ile Gly Met Leu Arg Gln Ala Val Lys Asn Glu Ser
-55 -50 -45

Pro Val His Ile Phe Leu Lys Pro Asn Ser Asn Glu Ile Gly Lys Val
-40 -35 -30

Glu Ser Ala Ser Pro Glu Asp Val Arg Tyr Phe Lys Thr Ile Leu Thr
-25 -20 -15 -10

Lys Glu Val Lys Gly Gln Thr Asn Lys Leu Ala Ser Val Ile Pro Asp
-5 -1 1 5

Val Ala Thr Leu Asn Ser Leu Phe Asn Gln Ile Lys Asn Gln Ser Cys
10 15 20

Gly Thr Ser Thr Ala Ser Ser Pro Cys Ile Thr Phe Arg Tyr Pro Val
25 30 35

Asp Gly Cys Tyr Ala Arg Ala His Lys Met Arg Gln Ile Leu Met Asn
40 45 50 55

Asn Gly Tyr Asp Cys Glu Lys Gln Phe Val Tyr Gly Asn Leu Lys Ala
60 65 70

Ser Thr Gly Thr Cys Cys Val Ala Trp Ser Tyr His Val Ala Ile Leu
75 80 85

Val Ser Tyr Lys Asn Ala Ser Gly Val Thr Glu Lys Arg Ile Ile Asp
90 95 100

Pro Ser Leu Phe Ser Ser Gly Pro Val Thr Asp Thr Ala Trp Arg Asn
105 110 115

Ala Cys Val Asn Thr Ser Cys Gly Ser Ala Ser Val Ser Ser Tyr Ala
120 125 130 135

Asn Thr Ala Gly Asn Val Tyr Tyr Arg Ser Pro Ser Asn Ser Tyr Leu
140 145 150

Tyr Asp Asn Asn Leu Ile Asn Thr Asn Cys Val Leu Thr Lys Phe Ser
155 160 165

Leu Leu Ser Gly Cys Ser Pro Ser Pro Ala Pro Asp Val Ser Ser Cys
170 175 180

Gly Phe
185

<210> 9
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<212> DNA
<213> Artificial Sequence

<220>
<223> sense primer

<400> 9
ccgaattcctt ggcgagtgta attcctgatg

<210> 10
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
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<400> 10
cagaattcat gaaaaatcctt tttttatcaa tggcc

35

<210> 11
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<212> DNA
<213> Artificial Sequence

<220>
<223> anti-sense primer

<400> 11
tcgaattcctt aaaatccaca gctggatac

29